APPENDIX 11

NORTH FORK ASSESSMENT FINDINGS AND DETAILS

Fisheries surveys conducted during this project in the North Fork sub-basin (14.7% of watershed) did not observe coho presence. While coho have been observed in the basin historically, the last observation of coho in the North Fork basin was 1998. The 2001 DGF NCWAP electroshoking surveys did not find coho anywhere in the sub-basin. Pat will rewrite this section.

Steelhead one year and older have declined or were not observed in the larger tributaries where sampled. Larger and older age steelhead require deep pools for rearing. Consequently deep pools are indicative of more favorable habitat conditions overall.

Little North Fork

McNeil samples in LNFG for percent fines <0.85 mm taken at four sites from 1992-1997 ranges from 11-28%. .Of the 20 samples collected at those sites for that period, five were below the TMDL maximum target of 14%.9 (WQ NCWAP).
Median particle size for samples from 1997-2001 ranged from 14-64 mm. Of the total of 24 samples collected at three sites, 11 were above the minimum 37mm target for the Garcia TMDL. (WQ NCWAP).
MWATs (Maximum Average Weekly Temperatures) range from 14-15 C, seasonal maxima from 15-17 C. .Suggested "fully supportive range" is 10-16 C and lethal is proposed at 24 C (WQ NCWAP).
Thirty-two (LNF2) and eighteen (LNF3) young-of-the-year coho were observed in 1998 (GRI, 2001).
Steelhead 1+ decreased from 285 to 148 from 1999-2001 (GRI, 2001).(DFG NCWAP)
The LNF was stocked with 45,280 juvenile coho from the Mad River Hatchery between 1995 –98. Carcass surveys were conducted in 1999-2000 no presence of returning spawning adults (DFG, 2000 F-51-R-13). .(DFG NCWAP)
During a 1964 stream survey, DFG biologist Charlie Parker noted: Steelhead, coho and roach observed. Ninety-five percent game fish (steelhead and coho), remaining were roach fish. Coho and steelhead juveniles estimated at 50/ 100 ft concluded that 80% of the length is favorable habitat. Maximum pool depth was 5 ft. Sand and silt consisted of 30% substrate. The Little North Fork is an important steelhead and silver salmon (coho) spawning and nursery tributary. Silt from past logging might limit egg hatching, but present natural propagation appears good. Recommendations included: Removal of slash, debris and log jams to improve fish passage and stream conditions. Possible planting of coho to establish a better run. .(DFG NCWAP)
Electrofishing in November 1990 showed that both lower and upper Little NF Gualala had a fish community dominated by steelhead young-of-the-year with sculpin and ammocete larvae present at the lower site (DFG, 1990). (DFG NCWAP)
Electrofishing in November 1999 showed that both lower and upper Little NF Gualala had a fish community dominated by young-of-the-year steelhead with steelhead 1+, 2+ and sculpin present but in low numbers (DFG, 1999). .(DFG NCWAP)
Steelhead young-of-the-year and 1+ were observed by the 2001 NCWAP field crew. Channel types were F4, B4, and B3. .(DFG NCWAP)
1992- CDF, WQ, DG&G indicate concern for higher level of harvesting within LNFG, and NF GRI. As indicated by WQ (00-101), 60% of the planning watershed has been harvested in the last 10 years mostly by even-aged management silviculture (93%, vs. 7% selection logging). .(DFG NCWAP)

Doty Creek

Percent fines <0.85 mm sampled at one site from 1993-1997 ranged from 11-17%, one observation below the TMDL maximum target of 14%. There were no particle size data available.(WQ NCWAP).
MWATs from 1994 and 1998 near the mouth of Doty Creek were 13 C and 14 C, respectively, within the "fully supportive range" of 10-16 C. Seasonal maxima were 14 and 15 ,respectively, below the proposed lethal limit of 24 C (WQ NCWAP).
Electrofishing in September 1986 showed that the Dry Creek had a fish community dominated by steelhead with no other species present. Yearling steelhead and two year old fish were both represented in the sample. (DFG, 1986) (DFG NCWAP).

The upper reaches of Doty Ck. were logged during the early 1960s as part of a large area-wide block clearance project in the Garcia watershed. The lower reaches were entirely logged by the late 1960s. Located in steep, deeply incised terrain, the haul road followed Doty Ck. adjacent to the stream channel (CDF NCWAP). .

Log Cabin Creek

Habitat Inventory was conducted in August 2001. Fish were not observed by the field crew. Channel type was a B4. Table 8 data is available at NCWAP Fortuna office (DFG NCWAP).

Central North Fork

Slightly less than 50% of the total of 68 data points collected at 12 sites throughout the middle and lower basin are at or above the Garcia TMDL 37 mm mimimum. Temporal trends were obvious at one site in Dry Creek and one in the Little North Fork. Over a three year period the Dry Creek site experienced an increase in D_{50} from 31 to 45 to 62 mm, indicating movement of finer sediments out of the area. (graphic WQ-1) (WQ NCWAP)

All the MWAT values in the North Fork are above the suggested "fully supportive" range of 50-60 F (10-16 C). From the upper-most station to the mouth of the North Fork the maximum MWAT for the period of record (1994-2001) declines from 72 F (22 C) to 64 F (18 C) below Robinson Creek (includes inflow from Dry Cr and McGann Gl), warming again to 65 F (19 C) just upstream of the Little North Fork, and dropping to 64 F (18) at the mouth below the inflow from the Little North Fork (graphic WQ-2). (WQ NCWAP)

McNeal samples at eight sites were sampled a total 35 times from 1992-1997. The range of mean fines <0.85mm for those 35 observations range from 11-28%, with 20% falling below the 14% TMDL maximum (WQ NCWAP). .

In the lower North Fork, fisheries log structures have been aggraded by 4 to 6 ft.

A lateral haul road was built in the late 1950s across a steep inner gorge ravine leading directly down to the North Fork about one quarter upstream and north of the confluence with Stewart Ck. The road then crossed the North Fork by a fjord graveled crossing to a large instream landing on the east bank of the River. The entire switchback turn across the inner gorge ravine collapsed into the river onto the instream landing by 1963, creating a gap in the road in excess of 300 ft. long (CDF NCWAP).

Main haul road follows the North Fork along the sideslope contour upslope, and in some areas adjacent to the stream channel. GRI sued over use of this road. Subsequently, 1.5 miles of this road abandoned along mid watershed location. Additional 2 miles decommissioned by CDF recommendation between the North Fork and Yellowhound Ridge.

Dry Creek

MWATs in Dry Ck. at four sites from 1994 to 2001 range from 15 to 18C. Seasonal maxima ranged from 16 to 21C (WQ NCWAP).

GRI Dry Ck McNeal Data 16.5 (95), 14.7 (96) 11.6 (97) indicating upper range within USF&WS Matrix 11 to 16%.

Over a three year period a Dry Creek site experienced an increase in D_{50} from 31 to 45 to 62 mm, indicating movement of finer sediments out of the area. (graphic WQ-1) (WQ NCWAP)

NMFS reports 57% of the Dry Ck. planning watershed subject to timber harvest operations during the last 10 years (00-101).

The lower reaches were logged during the early 1950s. The middle to higher reaches were entirely logged during the later 1960s after the 1964 flood. Due to the deeply dissected V-shaped valleys, the main haul roads were built directly adjacent to the stream channel. Numerous landing were built onto or adjacent to Class I watercourses (See Logging Impacts Map).

Sixteen young-of-the-year coho were last observed in 1998 (GRI, 2001). Electrofishing in July 1994 showed that the Dry Creek had a fish community dominated by steelhead with no coho present, with a large number of stickleback. Electrofishing in September 1986 showed that the Dry Creek had a fish community dominated by roach with steelhead the second most abundant species. Yearling steelhead represented about a tenth of the sample (DFG 1994). Steelhead young-of-the-year were observed by the 2001 DFG NCWAP field crew. Channel types of B4 and B1 were recorded during Habitat Inventory was conducted in August, 2001.

Robinson Creek

MWATs in Robinson Creek at five sites from 1994 to 2001 range from 14 to 16 C, seasonal maxima from 15-22 C (WQ NCWAP) . Water T in lower reaches of Robinson Ck. averaged over 65F (98-147).

GRI Robinson Ck. McNeil Data 15.2(95), 18.1(96), 17.9(97), indicating higher and slightly in excess of USF&WS Matrix 11 to 16%..

Tractor logged in the late 1960s. The haul road followed Robinson Creek. in the central reaches. There are several in stream landings adjacent to the main channel (CDF NCWAP).
Twelve young-of-the-year coho were last reported in 1998 (GRI, 2001). Steelhead young-of-the-year and 1+ were observed by the DFG NCWAP field crew. Channel type of B4 was recorded. Steelhead 1+ decreased from 422 to 13 from 2000-2001 (DFG NCWAP).

McGann Gulch
Tractor logged in the late 1960s. Large landing in the Gulch flushed out. Upper reaches have scoured out leaving the sediment to settle out in the lower reaches. Due the sediment loading, McGann Gulch flows underneath the gravel at the base of the Gulch, upstream of the NF. Or dries up, stranding steelhead trout (CDF NCWAP).
McNeil sampling for fines <0.85mm at the base of the gulch: 19 (95), 27(96), 19 (97). These are in excess of USF&WS Matrix standards, and exceed the TMDL target maximum of 14% (WQ NCWAP).
MWATs for two stations from 1995-1997 ranged from 14-16 C, seasonal maxima from 16-21 C (WQ NCWAP).
Steelhead young-of-the-year observed by the DFG 2001 NCWAP field crew. The survey was terminated after 67 feet to lack of water flow.

Stewart Creek.
The Area was tractor logged during the middle to late 1960s. Extreme sedimentation and accumulations of organic debris was deposited in stream channels by tractor skidding, and landing/ road construction in or near watercourses, devoid of erosion control measures (THP 97-171). Tractors had operated on slopes in excess of 65%. Older skid trails lead to in WLPZ landings. Lack of shade in many areas. A haul road was located within the creek bed or adjacent to Steward Ck,. This road has not been used since 1989.
A large waterfall blocks passage of anadromous fisheries at the confluence of the North Fk. Gualala River and Stewart Ck.
Bear Ck. area extensively harvested since the 1960s. Heavy sedimentation, logs, and debris jams are still present, especially in Class I watercourses. Some past damages are still contributing sediment to stream system. There is a moderate amount of LWD in Class IIs. Now, there is greater than 70% shade canopy cover on lower Stewart Ck. (97-072 CFL).

Billings Creek
A larger tract of Douglas-fir in the highest reaches was logged by 1964 with no erosion controil facilities installed prior to December 1964 flood event (CDF NCWAP).